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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,545	12/04/2003	Abdus Suttar Khan	033275-421	5504

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EXAMINER	
PADGETT, MARIANNE L	

ART UNIT	PAPER NUMBER
1792	

NOTIFICATION DATE	DELIVERY MODE
01/11/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/726,545	KHAN ET AL.	
	Examiner	Art Unit	
	Marianne L. Padgett	1792	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/22/7*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Applicants IDS of 10/22/2007 has been made of record, noting that it is actually a correction of a missed type document number of the IDS of 6/18/2004 & references considered therewith.

2. The amendments to the claims have corrected many problems as set forth in section 1 of the action mailed 6/25/2007, with any remaining problems discussed below.

The previously applied provisional obviousness double patenting rejection (section 11 of the action mailed 6/25/2007) over 10/726,593 is removed, due to the abandonment of that application.

Applicants amendments to the specification are noted & considered supported, noting that the changes in application numbers on page 6 are switching the unpublished EPO numbers for the published EPO numbers.

3. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In independent claim 1, the preamble introduces "the **surface** of a single crystal or directionally solidified article" (emphasis added), hence in lines 7-8, "a single crystal... material" lacks antecedent basis, as no such "material" has been introduced. As it would be logical & consistent with the preamble, for purposes of examination over the prior art, it can be considered or assumed that --... surface of the article -- was the intended meaning, however clarity in the claims is needed. New independent claim 14 also has an analogous antecedence problem.

Applicant statement that M in MCrAlY stands for Ni, Co or Ni + Co, or for Fe in steels (pages 12-13, bridging paragraph in 10/22/2007 response), is considered an unsupported allegation, as they have not pointed out such a teaching in the original specification, ignore provided a prior art teaching that requires that M necessarily, or always stands for these particular metals only. While the general formula is frequently used in the art, it is also conventional to define what M stands for when using the formula, especially in patent literature.

Therefore, it remains noted that the limitation of "MCrAlY", while mostly representing a chemical formula or composition, contains an undefined variable, M, which makes the scope of the claim unclear, hence indefinite. Review of the specification did not find a definition of M. From examples, on page 2, lines 4-7, M appeared to encompass Ni &/or Co, while on page 6, lines 6-10 & page 8, lines 25-28, M appeared to be Ni or a mixture of Ni, Co, Ta & Si, however examples do not define the scope of a variable, hence the material of which the coating is composed is vague and indefinite, lacking a showing from the original specification or cited relevant prior art that provides a **necessary** meaning/scope for the variable. Lacking a clear meaning, for purposes of examination, M will be considered to encompass any metal.

Claim 4 now introduces the terminology "a γ/γ' MCrAlY-coating or with γ/β MCrAlY-coating ", clarifying the relationship to the previously required "MCrAlY-coating", as supported by Disclosures of γ/γ' and γ/β MCrAlY-coatings in the specification, such as on page 6. However, claim was considered further unclear, as it was unknown how these Greek letters describe a coating when no composition is indicated. Furthermore, assuming that a γ/γ' or γ/β coating", means -- γ/γ' or γ/β-MCrAlY-coatings --, the examiner has little idea from the specification what this encompasses & means, except for including the two exemplary compositions for γ/γ'-MCrAlY, and the one exemplary composition for γ/β-MCrAlY as found on pages 6 & 8. Does it require some particular undisclosed microstructure? Page 1, lines 31-33 appear to indicate USPN 4,546,052 or 4,973,445 disclosed the γ/γ'-MCrAlY structure, however the examiner found absolutely nothing in these patents that even mentioned the term, let alone defined/described it. Page 2, lines 4-7, appeared to indicate that USPN 3,754,903 & 3,676,085 disclosed the γ/β -MCrAlY structure, but again the examiner found nothing clearly relating thereto therein, although col. 1, lines 11-18 of Goward et al. (903) did discuss a γ' phase of $Ni_3(Al, Ti)$ in Ni-based superalloy, but the examiner did not find this to clarify any of these structures.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226

(Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 5-6, 8 & 11-12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Konter et al.** (6,405,435 B1).

While applicants have amended the claims to require that the epitaxial structure formation the subsequent to depositing MCrAlY coating, this may be considered to be encompassed by the teachings of the references, and that the deposition material must have already come into contact, then deposited on the surface for the laser is a fact on the deposited powder coating to create epitaxial structure, that the laser is actually treating or heating some of the powder before it contacts the surface as illustrated in figure is not considered to over come this reasoning, as any preheating of the powder cannot enable epitaxial formation, since for that to occur contact with the substrate crystal structure is necessary.

Further note, that what ever area, big or small chosen to be deposited on, on a surface can be considered a "local area", thus cannot be considered to supply any significant difference, lacking any clearer context.

Konter et al. (435) teach a process for repairing cooling channels in monocrystalline gas turbine components, such as blades & vanes, where a thermally stable masking material (a ceramic) is employed over cooling channels, thereafter a protective layer is deposited that may be the superalloy material of which the gas turbine component is made, but also may be other material, exemplified by a combination of an MK-4 turbine blade and SV-20 composition as an epitactic (i.e. epitaxial), monocrystalline protective layer thereon (abstract; figure; col. 1, lines 5-50; col. 2, lines 10-15; col. 3, lines 14-21 & 43-

60; & claims), where table 1 provides composition of blade & coating, giving Cr (25), Al (5.5), Si (3), Ta (1), Y (0.5) with the balance being Ni (i.e. Ni-25Cr-5.5Al-3Si-1Ta-0.5Y), which in light of applicants' specification appears to be an MCrAlY material, with M = Ni + Si + Ta. However, there's no way for the examiner to determine from this or applicants' disclosure whether any γ/γ' or γ/β-MCrAlY coatings (? phases?) are present, as she has no clear definition or description of what they constitute. Konter et al. teach creating the monocrystalline layer via deposition of a powder and applying an energy source, such as a laser thereto, teaching that such processes are known (figure 4; col. 2, lines 45-52; col. 3, lines 34-50; & col. 4, lines 5-20). Note that the powder application is localized due to the masking, and that the laser as illustrated is shown converting powder coating to monocrystalline epitaxial coating at its point of application, where the laser's action in order to create this monocrystalline coating is considered to inherently result in the claimed "remelting", as it must melt the powder coating in order to produce the taught structure. Also, the use of the illustrated localized laser beam, would in itself make this process a localized coating process, as the laser beam as shown only treats a localized area at any one time, even if masking wasn't already been employed. Konter et al. also teach that the process can be performed several times consecutively, so that multiple layers can be formed (col. 3, lines 65-col. 4, line 4).

6. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Konter et al.** (435) as applied to claims 1, 5-6, 8 & 11-12 above, in view of **Marcin et al.** (EP 0740977 A1).

Konter et al. (435) doesn't teach repeating the deposition at different locations before converting the coating to single crystalline material, nor depositing different coating materials at different locations. Marcin et al. (EP) is teaching a surfacing technique, where coating material may be added to the surface either before or during a laser melting process, which shows the expected equivalents of these two procedures (abstract; col. 2, lines 56-col. 3, lines 58, especially 11-20 & 43-50), where the option of depositing before the laser melting is considered to encompass deposition on multiple localized areas before converting to single crystalline microstructure, i.e. melting. Marcin et al. specifically teach that

operating of the laser at low power & large diameter causes solidification from the substrate outward (col. 3, lines 10-16), with an embodiment teaching deposition of several deposits, plus Marcin et al. makes the suggestion that the technique is ideal for producing single crystal gas turbine components (col. 4, lines 8-23). Marcin et al. further notes that the composition may be changed to improve the performance at different locations, such as by depositing compositions specifically for oxidation resistance on particular component locations (col. 4, line 24-43). It would've been obvious to one of ordinary skill in the art to employ these specific techniques as described in Marcin et al., in the protective coating process of Konter et al. (435), as Konter et al. suggest using known prior art laser deposition techniques & Marcin et al. specifically suggest their particular laser technique to be useful for producing both the types of coating desired by Konter et al. as well as suggesting use for gas turbine components, thus particularly motivating use of the various coating procedures in Konter et al.'s process.

7. Claims 4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being unpatentable over **Konter et al.** (435), as applied to claims 1, 5-6, 8 & 11-12 above, or alternately in view of **Konter et al.** (EP 1001055 A1).

As previously noted & repeated above, whether or not the particularly suggest that coating material of Konter et al. (435) encompasses the claimed γ/γ' or γ/β-coatings of claim 4 cannot be determined, however assuming that "γ/γ' or γ/β" described some sort of microstructural phase in the MCrAlY coating, the EP reference (provides evidence as a teaching reference) also to Konter et al. is discussing the same materials & coatings as employed & made in Konter et al. (435), where it particularly describes a single crystal coating material epitaxially grown of the SV-20 material on the same substrate material, as having multiple phases (dendritic structures), but does not give them a Greek alphabet labeled name (abstract; [0014-0029, especially [0018-19], [0021], [0024] & [0026-27]), hence as it appears that claim 4 requires multiple phases, probably in MCrAlY, it appears as best as can be presently determined that this composition may read on the possible claim requirement. Alternately, Konter et al. (EP 055)

discusses the benefit of these multiple phases/dendrites/precipitates in the single crystalline microstructure as providing orientation to the epitaxial growth, hence it would be obvious to one of ordinary skill in the art to employ this or other MCrAlY-coatings which when laser crystallize also provide such precipitates & phases with the expectation that they would have analogous beneficial effects.

8. Claims 1, 4-5 & 12 rejected under 35 U.S.C. 102(a) as being clearly anticipated by **Bezencon et al.** (EP 1295970 A1 or EP 1295969 A1).

These references to Bezencon et al., were published before the instant cases filing date & have overlapping, but not identical inventors, however this applied reference has a common assignee with the instant application. This rejection under 35 U.S.C. 102(a) might be overcome either by an appropriate showing under 37 CFR 1.131 or a statement of common ownership at the time of the invention.

The Bezencon et al. references have teachings equivalent to those of Konter et al. (435), hence arguments set forth above in section 5 are also considered applicable to these references. The previously noted difference concerns the Bezencon et al. references also providing teachings of the MCrAlY coating being of γ/γ' or γ/β single crystalline structure, epitaxial with the single crystal base material, which may be a gas turbine component (see abstracts & figures 1, etc.). It is noted that these references provide composition examples of γ/γ' or γ/β-MCrAlY coatings, but do not tell the examiner what necessarily means they have a γ/γ' or γ/β-structure.

9. Claims 1-3, 6-7, 9, 12, 14-16, 18 & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable as **Foster et al.** (US PN 4,798,441), in view of over **Foster** (5,037,513) & especially **Konter et al.** (435).

It is noted that new claim 14, is equivalent to previously discussed claims 1+5+12 as amended, with the additional limitation of requiring the as deposited coating to be polycrystalline before subsequent conversion to epitaxial. It is noted that electrodeposition techniques such as employed by Foster et al. (as

previously discussed & repeated below) will generally be expected to have polycrystalline structures, as can actually be seen in the micrograph photos of the Foster et al. reference (figures 1-3), hence deposition via the alternative techniques as set forth in this combination would have in compass that the claimed additional polycrystalline structure.. It is further noted that Foster et al. (441) also notes that other techniques such as various spraying & physical vapor deposition processes that would also have been expected to provide polycrystalline structures, which require further finishing techniques are known for depositing these coating materials (column 4, lines 64-68), thus would also have been expected to be reasonable alternative deposition procedures to combine with finishing procedures Konter et al. (435), in order to provide optimum microstructure.

As previously discussed Foster et al. (441) teach electrodeposition of a metal matrix (Ni or Co or Fe) containing particles of $CrAlM_2$, where M_2 = Y, Si, etc. (i.e. MCrAlY coatings), onto superalloy substrates, such as single crystal gas turbine blades, to provide a protective coating therefore (abstract; col. 1, lines 5-22 & 43-68). After deposition, heating of the composite coating is performed, where high temperatures are preferred in order to achieve rapid diffusion within the composite material between particles & matrix, but teaching a formation of two phases within the alloy (col. 2, lines 2-7 & 39-col. 3, lines 16; col. 4, lines 11-68). Foster et al. (441) particularly teach that these "overlay coatings have extremely beneficial properties. It should be noted that the coatings employed fine particles which are evenly distributed in an equiaxed matrix, thus producing a very high quality surface finish requiring little or no additional work..." (col. 4, lines 59-63). The examiner notes that "equiaxed" means having approximately equal dimensions in all directions, where the term is especially used with respect to crystal grains in a metal. From this description, the use of rapid heating processes & the performance of this process on single crystal superalloy substrates, it appears that such a combination of substrate and coating process would inherently epitaxial results, otherwise it does not appear possible that the coating could be described as equiaxed when on a single crystal substrate. Alternately, Konter et al. (435) discussed above

discusses the desirability of creating epitaxial coatings of analogous MCrAlY materials onto single crystal gas turbine components, hence it would have been obvious to one of ordinary skill in the art to insure for such single crystal gas turbine substrates, that the heating procedure taught in Foster et al. (441) which affects a crystallization is sufficient to insure that epitaxial result, in order to effect improvements discussed in Konter et al. (435).

Foster et al. (441) differs from the claims by not discussing coating in localized areas, however Foster (513), who is also electrodepositing composite coatings analogous to those of Foster et al. (441) onto gas turbine blades, discusses coating only portions thereof, where those areas not be plated are given a wax mask to prevent coating from taking place in undesired areas (abstract; example in col. 5, especially lines 27-30). Therefore, it would've been obvious to one of ordinary skill in the art when performing the coating process as discussed in Foster et al. (441) on gas turbine blades, to consider what portions are desired to be coated & employ wax mask techniques to restrict the coating to only appropriate areas, as such techniques were shown to be effective for patterned electrodeposition, as well as desirable for gas turbine blades.

10. Claims 9-10 & 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Foster et al.** (US PN 4,798,441), in view of over **Foster** (5,037,513) & **Konter et al.** (435) as applied to claims 1-3, 6-7, 9, 12, 14-16, 18 & 20 above, in view of **Marcin et al.** (EP 0740977 A1).

While Foster et al. (414) doesn't teach repeating the deposition at different locations before converting the coating to single crystalline material, nor depositing different coating materials at different locations, the issues of the need for differential coatings &/or repair of like products would then analogous to the above discussion with respect to Marcin et al., thus techniques discussed above would've been analogously applicable to this combination, especially considering that Foster et al. (513) does consider localization procedures.

11. Claims 4 & 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being unpatentable over **Foster et al.** (US PN 4,798,441), in view of over **Foster** (5,037,513) & **Konter et al.** (435), as applied to claims 1-3, 6-7, 9, 12, 14-16, 18 & 20 above, or alternately in view of **Konter et al.** (EP 1001055 A1).

The above reasoning of section 7 concerning the possible presence or alternative obviousness of these structures which were & remain uncertain to the examiner would have been analogously applicable in this combination.

12.. Other previously cited references providing teachings equivalent to Konter et al. (435), at least for claims 1, 3 & 12, included Kurz et al. (6,024,792), while Foster et al. (GB 2167446 A) is substantially equivalent to Foster et al. (441) applied above for purposes of the rejection. Other references teaching electrodeposition of claimed material include Khan et al. (EP 1260612 A1); Foster (5,833,829 & 5,824,205); Honey et al. (4,810,334) & Stalker et al. (4,169,020), plus Bacos et al. (6,695,960 B1) or Girard et al. (2004/0241833 A1 ≡ 7,160,582 B2), who did additionally discussed γ/β phases. Conner et al. (6,203,847 B1) is also of interest for showing use of lacquer as a mask when electroplating.

13. Claims 1 & 4-5 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 & 4 of U.S. Patent No. 7,014,923 B2 (Schnell et al.). Although the conflicting claims are not identical, they are not patentably distinct from each other, because they are directed to overlap in scope with patented claims being narrower the present claims, such that patented independent claim 1 is encompassed by the present application's claims 1 & 4, with patent claim 4 being of overlapping scope with the laser remelting of present claim 5, such that the patented claims provide a specific species of, or are encompassed by techniques of the present broader claims. It is noted that the present claim 3 will always be read on by any teaching that reads on this application's claim 1. Localized area is also not specified in the patent claims, however any time the laser melting/cladding is

employed, use as a localized applied coating is an obvious enduse or technique, since lasers are old and well-known, & specifically suited for localized application techniques, thus employing the claimed laser cladding only at needed or desired locations would have been an obvious, even expected variation on the patent claims.

Note the above discussion in section 5 above concerning the significance of the sequential limitation is also relevant to this obviousness double patenting rejections, hence applicant's arguments concerning this amended limitation are not convincing.

14. Claims 8-12, or claims 6, 8 & 11-12 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 & 4 of U.S. Patent No. 7,014,923 B2, in view of Marcin et al. (EP 0740977 A1), or Konter et al. (6,405,435 B1), respectively, both discussed above.

The method claims a patent (923) do not specify a specific enduse, such as the presently claimed gas turbine article, use in a repair process, thus specific deposition sequences or masking requirements, however either secondary reference teaches the desirability of the class of coatings & technique described in the patent claims, for use on gas turbine components, such as blades, with above discussed localized area &/or material teachings, hence it would've been obvious to one of ordinary skill in the art to use coatings as set forth in the claims of the (923) patent, on gas turbine components in the fashion set forth in Marcin et al. or Konter et al. (435), with the expectation that such coatings would have been effective, as they are a specific form of MCrAlY-coating that is capable of being put down by techniques as suggested in the secondary references, which also suggest different ranges of process variation as presented in the various dependent claims.

15. Other previously cited copending applications or patents issued within a year of the present filing date, that are to the same assignee, that are of interest included: Fernihough et al. (7,169,242 B2), whose process as illustrated by claims 1+8 (or 9 or 10), as well as 16 & 20 described actions

consistent with the present claim 1 (& 3, 5, 11-12), but are not specifically directed to MCrAlY-coatings had used for the repair of a bulk substrate. Copending application 11/071,171 is also of interest for laser resurfacing techniques, optionally single crystal & epitaxial and, which it may use metal powder mixtures with overlapping constituents with the present coating compositions, but lacking aluminum & specifically claimed to be deposited in an already locally melted surface area. Copending application 10/920,715 is also of interest as directed to a detailed laser resurfacing procedure, which may reestablish or create single crystal structure in the treated surface, but is not specifically directed to claimed material, nor coated surfaces.

16. Applicant's arguments filed 10/22/2007 & discussed above have been fully considered but they are not persuasive.

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne L. Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on M-F from about 8:30 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks, can be reached at (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MLP/dictation software

1/6/2008

MARIANNE PADGETT
PRIMARY EXAMINER